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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,051	12/12/2003	Paul R. Stanuch	35624-94960	2489

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EXAMINER

BERTHEAUD, PETER JOHN

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

Office Action Summary	Application No. 10/735,051	Applicant(s) STANUCH, PAUL R.	
	Examiner Peter J. Bertheaud	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/12/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "the plurality of adjusting elements are sized and shaped to vary the pressure" is unclear because these adjusting elements are simply the force behind the guide that varies the pressure. The adjusting elements may be "sized" and "shaped" to fit into the system, as well as shaped to provide a spring-like force, but they themselves are not varying the pressure.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The step "applying up to 3,200 pounds per square inch pressure from the vane assembly against a pressure ring" is unclear because how this pressure is applied is not in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-11, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephan 4,406,599 in view of Wiedmann 3,065,740.

Stephan discloses a variable displacement vane pump (10) comprising a vane assembly, the vane assembly (38) being positioned within a housing (24); a pressure ring (26,28), the pressure ring being positioned around the vane assembly to float within the housing; and a compensator (15). However, Stephan does not show the compensator to comprise a guide, a first end, a second end and a plurality of individual adjusting elements, the second end being in contact with the pressure ring and the plurality of adjusting elements being positioned adjacent the second end of the compensator in series to vary pressure. Furthermore, Stephan fails to disclose that the compensator further comprises at least one pivot plate positioned between the first end and the plurality of adjusting elements and at least one bearing plate positioned between the second end and the plurality of adjusting elements. Stephan fails to disclose that the plurality of adjusting elements are each disc shaped, wherein each adjusting element has a center and an edge as well as sized and shaped to distribute the pressure from the center to the edge. Stephan fails to disclose that each adjusting element has a convex side and a concave side, such that the convex sides of adjacent adjusting members are in contact and that the concave sides of adjacent adjusting members are oppositely positioned. Finally, Stephan fails to disclose that the plurality of individual adjusting elements are configured to reciprocate the guide between a first

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position and a second position against the element whose position is directly related to pressure.

Wiedmann teaches a pump assembly including compensators, each compensator comprising a guide (48a) having a first end (49a) and a second end (bottom of shaft 48a), the second end being in contact with the element whose position is directly related to pressure (29); and a plurality of individual adjusting elements (53), the plurality of adjusting elements being positioned around the guide and adjacent the second end of the compensator in series to vary pressure (see col. 5 lines 12-42).

Wiedmann also teaches that the compensator further comprises at least one pivot plate (66) positioned between the first end and the plurality of adjusting elements and at least one bearing plate (see Fig. 1, plate in between 53 and 52a) positioned between the second end and the plurality of adjusting elements. Wiedmann further teaches that the plurality of adjusting elements are each disc shaped, wherein each adjusting element has a center and an edge as well as sized and shaped to distribute the pressure from the center to the edge (see col. 4, lines 23-30). Wiedmann also teaches that each adjusting element has a convex side and a concave side, such that the convex sides of adjacent adjusting members are in contact and that the concave sides of adjacent adjusting members are oppositely positioned (see Fig. 1, 53). Wiedmann teaches that the plurality of individual adjusting elements are configured to reciprocate the guide between a first position and a second position against the element whose position is directly related to pressure (29). Wiedmann further teaches that these aspects would be

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advantageous because hydraulic preset positioning of a pump displacement member can be made repeatedly accurate.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the variable displacement pump of Stephan by including a plurality of adjusting elements in the compensator, as taught by Wiedmann, in order to provide hydraulic preset positioning of a pump displacement member that is fast acting repeatedly accurate (see col. 1, lines 52-54).

5. Claims 2, 12, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephan 4,406,599 in view of Wiedmann 3,065,740, and in further view of Leemhuis 5,634,776.

Stephan in view of Wiedmann disclose the invention as claimed above. However, Stephan in view of Wiedmann does not disclose that the vane assembly delivers pressure up to and including 3,200 pounds per square inch.

Leemhuis teaches a hydraulic pump with a check valve timing device. Leemhuis teaches that the check valve assembly (56) may be connected to a hydraulic vane pump (see col. 3, lines 52-54). Leemhuis further teaches that potential vane assembly can deliver pressure up to and including 3,200 pounds per square inch (see Fig. 11). Leemhuis teaches that this would be advantageous because the hydraulic pump assembly can offer a broader range of timing over a wide range of pump speeds, temperatures, system pressures, and piston displacements.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the variable displacement pump assembly of Stephan in view of

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Wiedmann by increasing the capable operating speed, as taught by Leemhuis, in order to offer a broader range of timing over a wide range of pump speeds, temperatures, system pressures, and piston displacements (see col. 3, lines 38-40).

In reference to claims 19-22, the above combination, Stephan in view of Wiedmann, and in further view of Leemhuis, disclose a method of varying pressure, comprising the steps: rotating a vane assembly within a pump housing; applying up to 3,200 pounds per square inch pressure from the vane assembly against an element whose position is directly related to pressure (see 62 in Leemhuis); varying the pressure by biasing a plurality of adjusting elements to reciprocate a guide against the element whose position is directly related to pressure (see 29 in Wiedmann); reciprocating the guide between a first position and a second position in tandem with the element whose position is directly related to pressure (see 29 in Wiedmann); aligning the plurality of adjusting elements in series wherein convex sides of adjacent adjusting elements are in contact; aligning the plurality of adjusting elements in series wherein concave sides of adjacent adjusting elements are oppositely positioned (see 53 in Fig. 1 and col. 4, lines 23-30 in Wiedmann).

In further regard to claims 2 and 12 it has been held that it is not inventive to discover the optimum or workable ranges by routine experimentation (In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 CCPA 1955). See MPEP § 2144.05 II - optimization of ranges.

Conclusion

6. The prior art made of record, in the attached form 892, and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Bertheaud whose telephone number is (571) 272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PJB



**EHUD GARTENBERG
SUPERVISORY PATENT EXAMINER**